

REMARKS

Reconsideration and allowance of the present application are respectfully requested.

Claims 5-11 are pending in this application. Claims 1-3 have been cancelled. Claim 5 has been amended. Claims 6-11 have been newly added.

Claim 5 has been amended as supported by cancelled claim 1 and by the present application including at page 28, lines 2-4. New claim 8 is supported by the present application including cancelled claim 1. New claim 9 is supported by the present application including at page 14, line 28 to page 15, line 2. New claim 10 is supported by the present application including cancelled claim 2. New claim 11 is supported by the present application including cancelled claim 3. No new matter has been added.

In response to the rejection of claim 1 under 35 USC 112, second paragraph, wherein the Examiner is unclear about the units of the impurity ranges, the applicants respectfully note that units are not necessary. As is clear from the formulas (1) and (2), the values are the product of "atomic ratio" and "a valence number," both of which have no units and thus the product also has no units.

The applicants respectfully submit that all presently considered claims are fully allowable under Section 112, second paragraph.

The applicants respectfully traverse the rejection of claims 1-3 and 5 under 35 USC 103(a) over Yoshizumi in view of Sakamoto et al. None of the cited references make the presently claimed invention to be obvious.

Yoshizumi discloses a method for forming an electroconductive layer of antimony- containing tin oxide (see for example, claim 1). Sakamoto et al. similarly

discloses a method for forming an electroconductive layer comprising a tin oxide and antimony oxide (see for example, column 2, lines 12-27). The presently claimed invention relates to a method for forming an electroconductive layer containing tin oxide and phosphorous on the surface of the titanium dioxide (see for example above claim 5). Both Yoshizumi and Sakamoto do not disclose or suggest the method for forming an electroconductive layer containing tin oxide and phosphorous on the surface of the titanium dioxide as in the presently claimed invention.

The applicants point out that Sakamoto discloses that the titanium oxide (not the electroconductive layer) may contain up to 1% by weight of a phosphorous compound (see Sakamoto claim 1) which is an impurity of the titanium oxide. By reducing the content of the impurity of the titanium oxide in the aforementioned level (1% by weight of a phosphorous compound), an electroconductive layer having a good conductivity can be formed on the titanium oxide efficiently (see column 2, lines 2-7 of reference). Accordingly, Sakamoto does not disclose or suggest the presently claimed method for forming an electroconductive layer containing tin oxide and phosphorous on the surface of the titanium dioxide.

The applicants submit that the presently claimed invention is nowhere disclosed, suggested or made obvious by the teachings of Yoshizumi and Sakamoto et al. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

The applicants respectfully traverse the rejection of claims 1-3 and 5 under 35 USC 103(a) over Vogt in view of Sakamoto et al. None of the cited references make the presently claimed invention to be obvious.

The applicants' above remarks have clearly distinguished the presently

claimed invention from the teachings of Sakamoto et al. The applicants respectfully assert the teachings of Vogt do not remedy the deficiencies of Sakamoto and the presently claimed invention is fully allowable in view of their combined teachings.

Vogt discloses a conductive pigment comprising a substrate coated with a conductive layer containing tin oxide doped with phosphorus (see for example, claim 1) and the substrate may be TiO_2 (see for example, claim 8). Sakamoto discloses a high purity TiO_2 (see for example claim 1).

According to Vogt, the substrate is calcined with exclusion of oxygen (see for example claim 14), and this is significantly distinguished from firing in an air or in an atmosphere of low oxygen concentration as in the presently claimed invention.

The applicants emphasize that the step of the firing being carried out in an air or in an atmosphere of low oxygen concentration is not only new and unexpected, but is economically advantageous (see page 27, line 28 to page 28, line 5 of present application) and can provide the tin oxide doped with phosphorus having satisfactory electroconductivity in practical usage (see page 3, lines 23 to page 4, line 2; and Examples in the present application).

Further, the applicants assert that a person of ordinary skill in the art would not be led to combining the teachings of Sakamoto with the teachings of Vogt. There is no suggestion or motivation to combine the two references to result in the presently claimed invention. The applicants assert that the combination of references is not tenable and should be withdrawn.

Even if the teachings of Vogt and Sakamoto are combined then the applicants submit that a person of ordinary skill in the art would not find the presently claimed invention to be made obvious for the reasons discussed above and as

follows.

The pH range is specified as pH 8-12 in the presently claimed invention (see for example above claim 6 and claim 9) and the specific surface area of the electroconductive layer is recited to be $70\text{m}^2/\text{g}$ or smaller (see for example above claim 9). These features are not disclosed or suggested by Vogt. When the specific surface and the pH are in aforementioned range (of e.g. claims 6 and 9), a significantly continuous electroconductive layer without fine particles is effectively formed (see page 14, lines 24 to page 15, line 2; and page 25, line 1-5 of present application).

Accordingly, the applicants submit that the presently claimed invention is nowhere disclosed, suggested or made obvious by the teachings of Vogt and Sakamoto et al. The presently claimed invention is fully allowable under Section 103(a) in view of the prior art.

In view of the above, the applicants submit that the present application is in condition for allowance and a Notice to that effect is respectfully requested.

Respectfully submitted,

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